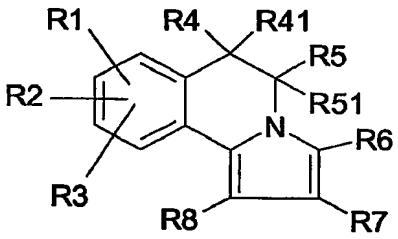
Patent claims

1. Compounds of formula I



(I)

in which

R1 is halogen, nitro, amino, mono- or di-1-4C-alkylamino, 1-4C-alkyl, hydroxyl, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, 3-7C-cycloalkoxy, 3-7C-cycloalkylmethoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,

R2 is hydrogen, halogen or 1-4C-alkoxy, and

R3 is hydrogen or 1-4C-alkoxy, or

R2 and R3 bound to the benzo ring moiety in ortho-position to each other together form a 1-2C-alkylenedioxy bridge, or

R2 and R3 bound to the benzo ring moiety in ortho-position to each other together form a completely or predominantly fluorine-substituted 1-2C-alkylenedioxy bridge, or

R1 and R2 bound to the benzo ring moiety in ortho-position to each other together form a 1-2C-alkylenedioxy bridge and R3 is hydrogen, or

R1 and R2 bound to the benzo ring moiety in ortho-position to each other together form a completely or predominantly fluorine-substituted 1-2C-alkylenedioxy bridge and R3 is hydrogen,

R4 is hydrogen, fluorine, chlorine, 1-4C-alkyl, trifluoromethyl, cyclopropyl, cyano, 1-4C-alkoxycarbonyl or $-CH_2-O-R411$, in which

R411 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy-2-4-alkyl or 1-4C-alkylcarbonyl,

R41 is hydrogen or 1-4C-alkyl,

R5 is hydrogen, and

R51 is hydrogen,

or

R4 is hydrogen, fluorine, chlorine or 1-4C-alkyl,

R41 is hydrogen or 1-4C-alkyl,

R5 is hydrogen, and

R51 is hydrogen,

R6 is 1-6C-alkyl, amino, formyl, or 1-4C-alkyl substituted by R61, in which

R61 is 1-4C-alkoxycarbonyl, carboxyl, 1-4C-alkoxy, hydroxyl, halogen or -N(R611)R612, in which

R611 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl or 3-7C-cycloalkyl-1-4C-alkyl, and

R612 is hydrogen or 1-4C-alkyl, or

R611 and R612 together and with inclusion of the nitrogen atom to which they are bound form a radical Het1, in which

Het1 is a 5- to 7-membered saturated heterocyclic ring radical comprising one nitrogen atom, to which R611 and R612 are bound, and, optionally, one further heteroatom selected from a group consisting of nitrogen, oxygen and sulfur, and optionally substituted by R613 on a ring nitrogen atom, in which

R613 is 1-4C-alkyl, 3-7C-cycloalkyl, 3-7C-cycloalkyl-1-4C-alkyl, hydroxy-2-4C-alkyl, 1-4C-alkoxy-2-4C-alkyl, amino-2-4C-alkyl, mono- or di-1-4C-alkylamino-2-4C-alkyl, formyl, pyridyl or pyrimidinyl,

R7 is phenyl, Het2, R71- and/or R72- and/or R73-substituted phenyl, R74- and/or R75-substituted Het2, naphthyl, or R76- and/or R77-substituted naphthyl, in which

Het2 is a monocyclic or fused bicyclic 5 to 10-membered heteroaryl radical comprising one to three heteroatoms, each of which is selected from a group consisting of nitrogen, oxygen and sulfur,

R71 is hydroxyl, halogen, nitro, cyano, trifluoromethyl, 1-4C-alkyl, 1-4C-alkoxy, amino, mono- or di-1-4C-alkylamino, 1-4C-alkylsulphonylamino, arylsulphonylamino, 1-4C-alkoxycarbonyl, carboxyl, 1-4C-alkylthio, aryloxy-2-4C-alkoxy, aryloxy-1-4C-alkyl, aryloxy, aryl-1-4C-alkoxy, aryl, 1-4C-alkoxy-2-4C-alkoxy, 1-4C-alkoxy-1-4C-alkyl, hydroxy-2-4C-alkoxy, amino-2-4C-alkoxy, mono- or di-1-4C-alkylamino-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy, in which

aryl is phenyl or R711-substituted phenyl, in which

R711 is halogen, 1-4C-alkyl, 1-4C-alkoxy, nitro or cyano,

R72 is halogen, 1-4C-alkyl, 1-4C-alkoxy or 1-4C-alkoxycarbonyl,

R73 is 1-4C-alkyl or 1-4C-alkoxy,

R74 is halogen, 1-4C-alkyl, trifluoromethyl, 1-4C-alkoxy, cyano, amino, mono- or di-1-4C-alkylamino, 1-4C-alkoxycarbonyl, morpholino, carboxyl, nitro, phenyl or phenyloxy,

R75 is 1-4C-alkyl or halogen,

R76 is halogen, hydroxyl, 1-4C-alkyl, 1-4C-alkoxy, carboxyl or 1-4C-alkoxycarbonyl,

R77 is 1-4C-alkyl or 1-4C-alkoxy,

R8 is phenyl, phenylcarbonyl, -C(O)-N(R82)R83 or -C(O)-OR9, in which

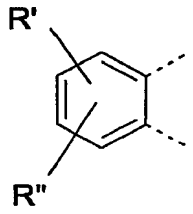
R82 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl, 3-7C-cycloalkyl-1-4C-alkyl, phenyl or phenyl-1-4C-alkyl, and

R83 is hydrogen or 1-4C-alkyl, or

R82 and R83 together and with inclusion of the nitrogen atom, to which they are bound, form a heterocyclic ring radical selected from the group consisting of pyrrolidinyl, piperidinyl, morpholinyl or N-(1-4C-alkyl)-piperazinyl,

R9 is 1-4C-alkyl;

under the provisio, that this subgroup of compounds of formula I,
wherein the combination of all of the following restrictions a.) to c.) apply, is thereof disclaimed:
a.) the substitution pattern of the left R1- and/or R2- and/or R3-substituted benzo ring of the dihydroisoquinoline moiety of the pyrrolodihydroisoquinoline scaffold shown in formula I is as follows:



in which
R' and R" can be bonded at any possible position of the benzo ring, and
R' is hydroxyl, 1-4C-alkoxy or trifluoromethoxy,
R" is hydrogen or 1-4C-alkoxy,
or R' and R" bound to the benzo ring moiety in ortho-position to each other together form a 1-2C-alkylenedioxy bridge,
and
b.) R4 is hydrogen, and
R41 is hydrogen, and
R5 is hydrogen, and
R51 is hydrogen,
and
c.) R8 is -C(O)-OR9, in which
R9 is 1-4C-alkyl;
and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

2. Compounds of formula I according to claim 1, in which
R1 is halogen, nitro, amino, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,
R2 is 1-4C-alkoxy,
R3 is hydrogen,
and none of R1, R2 and R3 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring,
R4 is hydrogen or 1-4C-alkyl,
R41 is hydrogen or 1-4C-alkyl,
R5 is hydrogen,
R51 is hydrogen,
R6 is 1-6C-alkyl, formyl, or 1-4C-alkyl substituted by R61, in which

R61 is 1-4C-alkoxycarbonyl,

R7 is phenyl, Het2, R71- and/or R72- and/or R73-substituted phenyl, R74- and/or R75-substituted Het2, or naphthyl, in which

Het2 is a heteroaryl radical selected from the group consisting of furanyl, thiophenyl, pyrrolyl, pyridinyl, quinolyl, indolyl, benzothiophenyl and benzofuranyl,

R71 is hydroxyl, 1-4C-alkoxy, amino or mono- or di-1-4C-alkylamino,

R72 is 1-4C-alkyl or 1-4C-alkoxy,

R73 is 1-4C-alkyl or 1-4C-alkoxy,

R74 is 1-4C-alkyl, trifluoromethyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, nitro, phenyl or phenyloxy,

R75 is 1-4C-alkyl,

R8 is phenyl, phenylcarbonyl, or -C(O)-N(R82)R83, in which

R82 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl or phenyl, and

R83 is hydrogen or 1-4C-alkyl, or

R82 and R83 together and with inclusion of the nitrogen atom, to which they are bound, form a heterocyclic ring radical selected from the group consisting of pyrrolidinyl and piperidinyl,

and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

3. Compounds of formula I according to claim 1, in which

R1 is halogen, nitro, amino, 1-4C-alkyl, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,

with the provisio that R1 is not trifluoromethoxy,

R2 is 1-4C-alkoxy, and

R3 is hydrogen, or

R1 and R2 bound to the benzo ring moiety in ortho-position to each other together form a completely or predominantly fluorine-substituted 1-2C-alkylenedioxy bridge and R3 is hydrogen,

and none of R1, R2 and R3 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring,

R4 is hydrogen or 1-4C-alkyl,

R41 is hydrogen or 1-4C-alkyl,

R5 is hydrogen,

R51 is hydrogen,

R6 is 1-6C-alkyl, formyl, or 1-4C-alkyl substituted by R61, in which

R61 is 1-4C-alkoxycarbonyl,

R7 is phenyl, Het2, R71- and/or R72- and/or R73-substituted phenyl, R74- and/or R75-substituted Het2, or naphthyl, in which

Het2 is a heteroaryl radical selected from the group consisting of furanyl, thiophenyl, pyrrolyl, pyridinyl, quinolyl, indolyl, benzothiophenyl and benzofuranyl,

R71 is hydroxyl, 1-4C-alkoxy, amino or mono- or di-1-4C-alkylamino,

R72 is 1-4C-alkyl or 1-4C-alkoxy,

R73 is 1-4C-alkyl or 1-4C-alkoxy,

R74 is 1-4C-alkyl, trifluoromethyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, nitro, phenyl or phenyloxy,

R75 is 1-4C-alkyl,

R8 is phenyl, phenylcarbonyl, -C(O)-N(R82)R83 or -C(O)-OR9, in which

R82 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl or phenyl, and

R83 is hydrogen or 1-4C-alkyl, or

R82 and R83 together and with inclusion of the nitrogen atom, to which they are bound, form a heterocyclic ring radical selected from the group consisting of pyrrolidinyl and piperidinyl,

R9 is 1-4C-alkyl,

and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

4. Compounds of formula I according to claim 1, in which

R1 is halogen, nitro, amino, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,

R2 is 1-4C-alkoxy,

R3 is 1-4C-alkoxy,

and none of R1, R2 and R3 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring,

R4 is hydrogen or 1-4C-alkyl,

R41 is hydrogen or 1-4C-alkyl,

R5 is hydrogen,

R51 is hydrogen,

R6 is 1-6C-alkyl, formyl, or 1-4C-alkyl substituted by R61, in which

R61 is 1-4C-alkoxycarbonyl,

R7 is phenyl, Het2, R71- and/or R72- and/or R73-substituted phenyl, R74- and/or R75-substituted Het2, or naphthyl, in which

Het2 is a heteroaryl radical selected from the group consisting of furanyl, thiophenyl, pyrrolyl, pyridinyl, quinolyl, indolyl, benzothiophenyl and benzofuranyl,

R71 is hydroxyl, 1-4C-alkoxy, amino or mono- or di-1-4C-alkylamino,

R72 is 1-4C-alkyl or 1-4C-alkoxy,

R73 is 1-4C-alkyl or 1-4C-alkoxy,

R74 is 1-4C-alkyl, trifluoromethyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, nitro, phenyl or phenyloxy,

R75 is 1-4C-alkyl,

R8 is phenyl, phenylcarbonyl, -C(O)-N(R82)R83 or -C(O)-OR9, in which

R82 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl or phenyl, and

R83 is hydrogen or 1-4C-alkyl, or

R82 and R83 together and with inclusion of the nitrogen atom, to which they are bound, form a heterocyclic ring radical selected from the group consisting of pyrrolidinyl and piperidinyl,

R9 is 1-4C-alkyl,

and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

5. Compounds of formula I according to claim 1, in which

R1 is halogen, nitro, amino, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,

R2 is 1-4C-alkoxy,

R3 is hydrogen,

and none of R1, R2 and R3 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring,

R4 is 1-4C-alkyl,

R41 is hydrogen or 1-4C-alkyl,

R5 is hydrogen,

R51 is hydrogen,

R6 is 1-6C-alkyl, formyl, or 1-4C-alkyl substituted by R61, in which

R61 is 1-4C-alkoxycarbonyl,

R7 is phenyl, Het2, R71- and/or R72- and/or R73-substituted phenyl, R74- and/or R75-substituted Het2, or naphthyl, in which

Het2 is a heteroaryl radical selected from the group consisting of furanyl, thiophenyl, pyrrolyl, pyridinyl, quinolyl, indolyl, benzothiophenyl and benzofuranyl,

R71 is hydroxyl, 1-4C-alkoxy, amino or mono- or di-1-4C-alkylamino,

R72 is 1-4C-alkyl or 1-4C-alkoxy,

R73 is 1-4C-alkyl or 1-4C-alkoxy,

R74 is 1-4C-alkyl, trifluoromethyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, nitro, phenyl or phenyloxy,

R75 is 1-4C-alkyl,

R8 is phenyl, phenylcarbonyl, -C(O)-N(R82)R83 or -C(O)-OR9, in which

R82 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl or phenyl, and

R83 is hydrogen or 1-4C-alkyl, or

R82 and R83 together and with inclusion of the nitrogen atom, to which they are bound, form a heterocyclic ring radical selected from the group consisting of pyrrolidinyl and piperidinyl,

R9 is 1-4C-alkyl,

and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

6. Compounds of formula I according to claim 1,

in which, in a first embodiment,

R1 is halogen, nitro, amino, mono- or di-1-4C-alkylamino, 1-4C-alkyl, 1-4C-alkoxy-2-4C-alkoxy, 3-7C-cycloalkoxy, 3-7C-cycloalkylmethoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,

R2 is 1-4C-alkoxy,

R3 is hydrogen,

and none of R1 and R2 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring,

and

R4 is hydrogen,

R41 is hydrogen,
R5 is hydrogen, and
R51 is hydrogen;

or in which, in a second embodiment,
R1 is 1-4C-alkoxy,
R2 is 1-4C-alkoxy,
R3 is hydrogen,
and none of R1 and R2 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and
R4 is 1-4C-alkyl,
R41 is hydrogen or 1-4C-alkyl,
R5 is hydrogen, and
R51 is hydrogen;

R6 is 1-6C-alkyl, or 1-4C-alkyl substituted by R61, in which
R61 is 1-4C-alkoxycarbonyl;

R7 is Het2, 4-hydroxy-3,5-dimethylphenyl, 3-dimethylamino-phenyl, or naphthyl, in which
Het2 is a monocyclic or fused bicyclic 5- to 10-membered heteroaryl radical comprising one to three heteroatoms, each of which is selected from a group consisting of nitrogen, oxygen and sulfur, such as, for example, quinolyl, e.g. quinolin-4-yl;

R8 is phenyl, phenylcarbonyl, -C(O)-N(R82)R83 or -C(O)-OR9, in which
R82 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl or phenyl, and
R83 is hydrogen or 1-4C-alkyl, or
R82 and R83 together and with inclusion of the nitrogen atom, to which they are bound, form a heterocyclic ring radical selected from the group consisting of pyrrolidinyl and piperidinyl,
R9 is 1-4C-alkyl;
and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

7. Compounds of formula I according to claim 1,
in which, in a first embodiment,
R1 is halogen, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,
R2 is 1-4C-alkoxy,
R3 is hydrogen,
and none of R1 and R2 is bound to the 7- or 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and

R4 is hydrogen,
R41 is hydrogen,
R5 is hydrogen, and
R51 is hydrogen;

or in which, in a second embodiment,
R1 is 1-4C-alkoxy,
R2 is 1-4C-alkoxy,
R3 is hydrogen,
and none of R1 and R2 is bound to the 7- or 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and
R4 is 1-4C-alkyl,
R41 is hydrogen or 1-4C-alkyl,
R5 is hydrogen, and
R51 is hydrogen;

R6 is 1-4C-alkyl, or 1-4C-alkyl substituted by R61, in which
R61 is 1-4C-alkoxycarbonyl;

R7 is Het2, 4-hydroxy-3,5-dimethylphenyl, 3-dimethylamino-phenyl, or naphthyl, in which
Het2 is a monocyclic or fused bicyclic 5- to 10-membered heteroaryl radical comprising one to three heteroatoms, each of which is selected from a group consisting of nitrogen, oxygen and sulfur, such as, for example, quinolyl, e.g. quinolin-4-yl,
R8 is -C(O)-OR9, in which
R9 is 1-4C-alkyl;

and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

8. Compounds of formula I according to claim 1,
in which, in a first embodiment,
either
R1 is halogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,
R2 is 1-4C-alkoxy, and
R3 is 1-4C-alkoxy,
or
R1 is 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,
R2 is halogen, and

R3 is 1-4C-alkoxy,

and none of R1, R2 and R3 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring;

or

either

R1 is halogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,

R2 is 1-4C-alkoxy, and

R3 is hydrogen,

or

R1 is 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,

R2 is halogen, and

R3 is hydrogen,

and none of R1 and R2 is bound to the 7- or 10-position of the pyrrolo[2.1-a]isoquinoline ring;

and

R4 is 1-4C-alkyl,

R41 is hydrogen or 1-4C-alkyl,

R5 is hydrogen, and

R51 is hydrogen;

or in which, in a second embodiment,

R1 is 1-4C-alkoxy,

R2 is 1-4C-alkoxy,

R3 is hydrogen,

and none of R1 and R2 is bound to the 7- or 10-position of the pyrrolo[2.1-a]isoquinoline ring,

and

R4 is 1-4C-alkyl,

R41 is hydrogen or 1-4C-alkyl,

R5 is hydrogen,

R51 is hydrogen;

R6 is 1-6C-alkyl, or 1-4C-alkyl substituted by R61, in which

R61 is 1-4C-alkoxycarbonyl,

R7 is phenyl, Het2, R71- and/or R72- and/or R73-substituted phenyl, R74- and/or R75-substituted Het2, or naphthyl, in which

Het2 is a heteroaryl radical selected from the group consisting of furanyl, thiophenyl, pyrrolyl, pyridinyl, quinolyl, indolyl, benzothiophenyl and benzofuranyl,

R71 is hydroxyl, 1-4C-alkoxy, amino or mono- or di-1-4C-alkylamino,

R72 is 1-4C-alkyl or 1-4C-alkoxy,

R73 is 1-4C-alkyl or 1-4C-alkoxy,

R74 is 1-4C-alkyl, trifluoromethyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, nitro, phenyl or phenyloxy,
R75 is 1-4C-alkyl,
R8 is phenyl, phenylcarbonyl, -C(O)-N(R82)R83 or -C(O)-OR9, in which
R82 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl or phenyl, and
R83 is hydrogen or 1-4C-alkyl, or
R82 and R83 together and with inclusion of the nitrogen atom, to which they are bound, form a heterocyclic ring radical selected from the group consisting of pyrrolidinyl and piperidinyl,
R9 is 1-4C-alkyl,
and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

9. Compounds of formula I according to claim 1,
in which
R1 is halogen, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy, such as e.g. chlorine, methoxy, 2-methoxy-ethoxy or difluoromethoxy,
R2 is 1-4C-alkoxy, such as e.g. methoxy,
R3 is 1-4C-alkoxy, such as e.g. methoxy,
and none of R1, R2 and R3 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and
R4 is hydrogen, or 1-4C-alkyl such as e.g. methyl,
R41 is hydrogen, or 1-4C-alkyl such as e.g. methyl,
R5 is hydrogen, and
R51 is hydrogen;

or
R1 is halogen, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy, such as e.g. chlorine, 2-methoxy-ethoxy or difluoromethoxy,
R2 is 1-4C-alkoxy, such as e.g. methoxy,
R3 is hydrogen,
and none of R1, R2 and R3 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and
R4 is hydrogen, or 1-4C-alkyl such as e.g. methyl,
R41 is hydrogen, or 1-4C-alkyl such as e.g. methyl,
R5 is hydrogen, and
R51 is hydrogen;

or
R1 is 1-4C-alkoxy, such as e.g. methoxy,
R2 is 1-4C-alkoxy, such as e.g. methoxy,
R3 is hydrogen,

and none of R1, R2 and R3 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and

R4 is 1-4C-alkyl, such as e.g. methyl,

R41 is hydrogen, or 1-4C-alkyl such as e.g. methyl,

R5 is hydrogen, and

R51 is hydrogen;

R6 is 1-4C-alkyl, such as e.g. methyl;

R7 is 4-hydroxy-3,5-dimethylphenyl, 3-dimethylamino-phenyl, or
pyridyl, indolyl, thiophenyl, quinolinyl or naphthyl, such as e.g. pyridin-4-yl, indol-3-yl, thiophen-3-yl, quinolin-4-yl or naphthalen-1-yl,

R8 is -C(O)-OR9, in which

R9 is 1-2C-alkyl, such as e.g. ethyl,

and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

10. Compounds of formula I according to claim 1,
in which, in a first embodiment,
either

R1 is bonded in the 8-position of the pyrrolo[2.1-a]isoquinoline ring, and is chlorine, 2-methoxy-ethoxy or difluoromethoxy, and

R2 is bonded in the 9-position of the pyrrolo[2.1-a]isoquinoline ring, and is methoxy,

or

R1 is bonded in the 9-position of the pyrrolo[2.1-a]isoquinoline ring, and is chlorine, fluorine, methyl, nitro, amino or difluoromethoxy, and

R2 is bonded in the 8-position of the pyrrolo[2.1-a]isoquinoline ring, and is methoxy,

and

R3 is hydrogen,

and

either

R4 is hydrogen,

R41 is hydrogen,

R5 is hydrogen, and

R51 is hydrogen,

or

R4 is methyl,

R41 is hydrogen or methyl;

R5 is hydrogen, and

R51 is hydrogen;

or in which, in a second embodiment,

R1 is bonded in the 8-position of the pyrrolo[2.1-a]isoquinoline ring, and is methoxy,

R2 is bonded in the 9-position of the pyrrolo[2.1-a]isoquinoline ring, and is methoxy,

R3 is hydrogen,

and

R4 is methyl,

R41 is hydrogen or methyl,

R5 is hydrogen,

R51 is hydrogen;

R6 is methyl or 2-methoxycarbonylethyl,

R7 is 4-hydroxy-3,5-dimethylphenyl, 3-dimethylamino-phenyl, 3,4,5-trimethoxyphenyl, quinolinyl or naphthyl,

R8 is phenylcarbonyl, -C(O)-N(R82)R83 or -C(O)-OR9, in which

R82 is hydrogen, methyl, ethyl, iso-propyl, iso-butyl, cyclohexyl, cyclopropyl or phenyl, and

R83 is hydrogen or methyl, or

R82 and R83 together and with inclusion of the nitrogen atom, to which they are bound, form a pyrrolidinyl radical,

R9 is methyl or ethyl,

and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

11. Compounds according to any of the claims 1 to 10, wherein said compounds have the formula I,

in which

R1 is 1-4C-alkoxy, such as e.g. 1-2C-alkoxy,

R2 is 1-4C-alkoxy, such as e.g. 1-2C-alkoxy,

R3 is hydrogen,

and none of R1 and R2 is bound to the 7- or 10-position of the pyrrolo[2.1-a]isoquinoline ring,

and in which

R4 is 1-4C-alkyl, such as e.g. methyl,

R41 is hydrogen, or 1-4C-alkyl such as e.g. methyl,

R5 is hydrogen,

R51 is hydrogen,

and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

12. Compounds according to any of the claims 1 to 10, wherein said compounds have the formula I,
in which
either
R1 is halogen, nitro, amino, mono- or di-1-4C-alkylamino, 1-4C-alkyl, 1-4C-alkoxy-2-4C-alkoxy, 3-7C-cycloalkoxy, 3-7C-cycloalkylmethoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy, and
R2 is 1-4C-alkoxy,
or
R1 is 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, 3-7C-cycloalkoxy, 3-7C-cycloalkylmethoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy, and
R2 is halogen,
and
R3 is hydrogen,
and none of R1 and R2 is bound to the 7- or 10-position of the pyrrolo[2.1-a]isoquinoline ring;
and in which
either
R4 is hydrogen,
R41 is hydrogen,
R5 is hydrogen, and
R51 is hydrogen,
or
R4 is 1-4C-alkyl,
R41 is hydrogen or 1-4C-alkyl,
R5 is hydrogen, and
R51 is hydrogen;
and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

13. Compounds according to any of the claims 1 to 10, wherein said compounds have the formula I,
in which
either
R1 is halogen, nitro, amino, mono- or di-1-4C-alkylamino, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, 3-7C-cycloalkoxy, 3-7C-cycloalkylmethoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy, and
R2 is 1-4C-alkoxy,
or
R1 is 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, 3-7C-cycloalkoxy, 3-7C-cycloalkylmethoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy, and

R2 is halogen,
and
R3 is 1-4C-alkoxy,
and none of R1, R2 and R3 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring;
and in which
either
R4 is hydrogen,
R41 is hydrogen,
R5 is hydrogen, and
R51 is hydrogen,
or
R4 is 1-4C-alkyl,
R41 is hydrogen or 1-4C-alkyl,
R5 is hydrogen, and
R51 is hydrogen;
and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

14. Compounds according to any of the claims 1 to 10, wherein said compounds have the formula I,
in which
R1 is halogen, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy, such as e.g. chlorine, methoxy, 2-methoxy-ethoxy or difluoromethoxy,
R2 is 1-4C-alkoxy, such as e.g. methoxy,
R3 is 1-4C-alkoxy, such as e.g. methoxy,
and none of R1, R2 and R3 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and
R4 is hydrogen, or 1-4C-alkyl such as e.g. methyl,
R41 is hydrogen, or 1-4C-alkyl such as e.g. methyl,
R5 is hydrogen, and
R51 is hydrogen;

or
R1 is halogen, 1-4C-alkoxy-2-4C-alkoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy, such as e.g. chlorine, 2-methoxy-ethoxy or difluoromethoxy,
R2 is 1-4C-alkoxy, such as e.g. methoxy,
R3 is hydrogen,
and none of R1, R2 and R3 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and
R4 is hydrogen, or 1-4C-alkyl such as e.g. methyl,

R41 is hydrogen, or 1-4C-alkyl such as e.g. methyl,
R5 is hydrogen, and
R51 is hydrogen;

or
R1 is 1-4C-alkoxy, such as e.g. methoxy,
R2 is 1-4C-alkoxy, such as e.g. methoxy,
R3 is hydrogen,
and none of R1, R2 and R3 is bound to the 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and
R4 is 1-4C-alkyl, such as e.g. methyl,
R41 is hydrogen, or 1-4C-alkyl such as e.g. methyl,
R5 is hydrogen, and
R51 is hydrogen;

and
R6 is 1-4C-alkyl, such as e.g. methyl;
and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

15. Compounds according to any of the claims 1 to 10, wherein said compounds have the formula I,
in which
R1 is fluorine, chlorine, 1-2C-alkoxy-2-3C-alkoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy, such as e.g. chlorine, 2-methoxy-ethoxy or difluoromethoxy,
R2 is 1-2C-alkoxy, such as e.g. methoxy,
R3 is hydrogen,
and none of R1 and R2 is bound to the 7- or 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and
R4 is hydrogen,
R41 is hydrogen,
R5 is hydrogen, and
R51 is hydrogen;

or
R1 is 1-2C-alkoxy, such as e.g. methoxy,
R2 is 1-2C-alkoxy, such as e.g. methoxy,
R3 is hydrogen,
and none of R1 and R2 is bound to the 7- or 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and

R4 is 1-2C-alkyl, such as e.g. methyl,
R41 is hydrogen, or 1-2C-alkyl such as e.g. methyl,
R5 is hydrogen, and
R51 is hydrogen;

or
R1 is fluorine, chlorine, 1-2C-alkoxy-2-3C-alkoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy, such as e.g. chlorine, 2-methoxy-ethoxy or difluoromethoxy,
R2 is 1-2C-alkoxy, such as e.g. methoxy,
R3 is hydrogen,
and none of R1 and R2 is bound to the 7- or 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and
R4 is 1-2C-alkyl, such as e.g. methyl,
R41 is hydrogen, or 1-2C-alkyl such as e.g. methyl,
R5 is hydrogen, and
R51 is hydrogen;

and
R6 is 1-2C-alkyl, such as e.g. methyl;
and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

16. Compounds according to any of the claims 1 to 10, wherein said compounds have the formula I,
in which
R1 is fluorine, chlorine, 1-2C-alkoxy-2-3C-alkoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy, such as e.g. chlorine, 2-methoxy-ethoxy or difluoromethoxy,
R2 is 1-2C-alkoxy, such as e.g. methoxy,
R3 is hydrogen,
and none of R1 and R2 is bound to the 7- or 10-position of the pyrrolo[2.1-a]isoquinoline ring,
and
R4 is 1-2C-alkyl, such as e.g. methyl,
R41 is hydrogen, or 1-2C-alkyl such as e.g. methyl,
R5 is hydrogen, and
R51 is hydrogen;
and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

17. Compounds according to any of the preceding claims, wherein said compounds have the formula I,

in which

R6 is 1-4C-alkyl, such as e.g. methyl,

R7 is Het2, 4-hydroxy-3,5-dimethylphenyl, 3-dimethylamino-phenyl, or naphthyl, in which

Het2 is a monocyclic or fused bicyclic 5- to 10-membered heteroaryl radical comprising one to three heteroatoms, each of which is selected from a group consisting of nitrogen, oxygen and sulfur, such as, for example, quinolyl, e.g. quinolin-4-yl;

R8 is -C(O)-OR9, in which

R9 is 1-4C-alkyl, such as e.g. ethyl,

and the salts, stereoisomers, hydrates and hydrates of the salts of these compounds.

18. A compound according to claim 1, wherein said compound is selected from the group consisting of:

1. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3,6,6-trimethyl-5,6-dihydro-pyrrolo[2,1-α]isoquinoline-1-carboxylic acid ethyl ester,
2. (6RS)-2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3,6-dimethyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
3. (6RS)-8,9-Dimethoxy-3,6-dimethyl-2-(3,4,5-trimethoxy-phenyl)-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
4. 9-(1,1-Difluoro-methoxy)-2-(3-dimethylamino-phenyl)-8-methoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
5. 9-(1,1-Difluoro-methoxy)-2-(4-hydroxy-3,5-dimethyl-phenyl)-8-methoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
6. 9-(1,1-Difluoro-methoxy)-8-methoxy-3-methyl-2-(3,4,5-trimethoxy-phenyl)- 5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
7. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9,10-trimethoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
8. 8-(1,1-Difluoro-methoxy)-9-methoxy-3-methyl-2-(3,4,5-trimethoxy-phenyl)-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
9. 8-(1,1-Difluoro-methoxy)-2-(4-hydroxy-3,5-dimethyl-phenyl)-9-methoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
10. 8-(1,1-Difluoro-methoxy)-2-(3-dimethylamino-phenyl)-9-methoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
11. 8,9-(1,1-Difluoro-methylenedioxy)-2-(3-dimethylamino-phenyl)-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
12. 8,9-(1,1-Difluoro-methylenedioxy)-2-(4-hydroxy-3,5-dimethyl-phenyl)-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
13. 8,9-(1,1-Difluoro-methylenedioxy)-3-methyl-2-(3,4,5-trimethoxy-phenyl)-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,

14. 9-Chloro-2-(4-hydroxy-3,5-dimethyl-phenyl)-8-methoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
15. 9-Chloro-8-methoxy-3-methyl-2-(3,4,5-trimethoxy-phenyl)-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
16. 9-Chloro-2-(3-dimethylamino-phenyl)-8-methoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
17. 8-Chloro-2-(4-hydroxy-3,5-dimethyl-phenyl)-9-methoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
18. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-9-methoxy-8-(2-methoxy-ethoxy)-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
19. 9-Methoxy-8-(2-methoxy-ethoxy)-3-methyl-2-(3,4,5-trimethoxy-phenyl)-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
20. 9-Methoxy-8-(2-methoxy-ethoxy)-3-methyl-2-naphthalen-1-yl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
21. 9-Fluoro-2-(4-hydroxy-3,5-dimethyl-phenyl)-8-methoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
22. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8-methoxy-3-methyl-9-nitro-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
23. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8-methoxy-3,9-dimethyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
24. 8,9-Dimethoxy-3-(2-methoxycarbonyl-ethyl)-6,6-dimethyl-2-quinolin-4-yl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
27. 9-Amino-2-(4-hydroxy-3,5-dimethyl-phenyl)-8-methoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethyl ester,
28. 1-[2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinolin-1-yl]-1-phenyl-methanone,
27. 4-(8,9-Dimethoxy-3-methyl-1-phenyl-5,6-dihydro-pyrrolo[2,1-a]isoquinolin-2-yl)-2,6-dimethyl-phenol,
28. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid cyclohexyl amide,
29. 1-[2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinolin-1-yl]-1-pyrrollidin-1-yl-methanone,
30. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid isopropylamide,
31. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid dimethylamide,
32. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid methylamide,
33. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid amide,

34. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid phenylamide,

35. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid ethylamide,

36. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid sec-butylamide, and

37. 2-(4-Hydroxy-3,5-dimethyl-phenyl)-8,9-dimethoxy-3-methyl-5,6-dihydro-pyrrolo[2,1-a]isoquinoline-1-carboxylic acid cyclopropylamide;

or a salt, stereoisomer, hydrate or hydrate of a salt thereof.

19. A compound according to claim 1 for use in therapy, e.g. for use in the treatment, prevention or amelioration of hyperproliferative diseases of benign or malignant behaviour and/or disorders responsive to the induction of apoptosis in a mammal, such as e.g. cancer.

20. Use of a compound according to claim 1 in the manufacture of pharmaceutical compositions for the treatment of hyperproliferative diseases of benign or malignant behaviour and/or disorders responsive to the induction of apoptosis in a mammal, such as e.g. cancer.

21. A pharmaceutical composition comprising one or more compounds according to claim 1 together with customary pharmaceutical excipients and/or vehicles.

22. A method for treating hyperproliferative diseases of benign or malignant behaviour and/or disorders responsive to the induction of apoptosis, such as e.g. cancer, in a patient comprising administering to said patient a therapeutically effective amount of a compound according to claim 1.